

REMARKS

Claims 1-5 and 7-21 are now pending in the present application. Claim 1 has been amended to recite a “tack to an unvulcanized diene-based rubber of 10.1-20N”. Basis for the amendment to claim 1 can be found, for instance, in Example 4 in Table I on page 15 of the specification wherein the tack is 10.1 and at page 3, lines 32-33 of the specification wherein the maximum preferred tack is 20.

Claims 1-5 and 7-21 were rejected under 35 USC 103(a) as being unpatentable over US Patent application publication 2002/0033557 to Hashimura in view of WO 92/20538 to Dollinger, JP 200-290629 to Ohtsuka and US Patent 5,532,319 to Asahara. The cited references fail to render obvious the present invention.

As previously mentioned and as is apparent from the description of the present application, important aspects of the present invention reside in the use of the specified terpene resin (A) and the specified aromatically modified terpene resin (B) in a weight ratio of (A)/(B) = 70/30 - 50/50 in a total amount of 30 - 200 parts by weight per 100 parts by weight of the thermoplastic elastomer including the epoxy-modified styrene-butadiene based block copolymer, together with the internal mold release agent and 0.1-2 parts by weight of the specified organic peroxide, in the adhesive composition layer (II), for the laminate of the air permeation preventive layer/the adhesive layer.

When the terpene resin (A) having a Mw of 1000 or less and a softening point of 60-120 °C is used, in combination with the aromatically modified terpene resin (B) having a Mw of 1000 or less and a softening point of 60-120 °C in a weight ratio of (A):(B) = 70:30 to 50:50, the desired laminate of an air permeation preventive layer/and adhesive layer having superior bondability with a tire carcass and contributing to the reduction of a tire weight can be obtained.

Namely, according to the present invention, an adhesive composition layer formed from an adhesive composition having a self-tack of less than 5N and a tack of an unvulcanized diene-

based rubber of 10.1 – 20 N is provided. This is completely absent in Hashimura, Dollinger, Ohtsuka, and Asahara as shown in the previously filed Rule 132 Declaration.

US Patent application publication 2002/0033557 to Hashimura discloses a method of inflation capable of preventing peeling of an inner layer in a molding process accompanied with inflation and deformation. In particular, Hashimura discloses a method of molding a hollow composite by giving deformation towards an inner surface of at least one composite member so as to cause it to laminate with another composite member, comprising giving the deformation and performing the molding by a pressurizing and heating medium.

However, as mentioned above, important aspects of the present invention reside in the use of the terpene resin (A) and the aromatically modified terpene resin (B), both independently having a Mw of 1000 or less and a softening point of 60-120°C, in the weight ratio (A)/(B) of 70/30-50/50 according to the present invention in the specified amounts, which are neither disclosed nor taught in Hashimura. This is critical in the present invention as mentioned above (please see Example 4 of the present application). This is completely absent in Hashimura et al. This is also not disclosed in Dollinger (WO'538), Ohtsuka (JP'629) and Asahara (US'319).

Hashimura broadly discloses the use of a terpene resin (please see para. [0040]) as a tackifier. However, the use of the specified terpene resin (A) and the specified aromatically modified terpene resin (B) both independently having a Mw of 1000 or less and a softening point of 60-120°C, in a weight ratio (A)/(B) of 70/30-50/50 in combination with the epoxy-modified styrene-butadiene based block copolymer according to the present invention is completely absent in and not even remotely suggested by Hashimura et al.

Dollinger fails to overcome the above discussed deficiencies of Hashimura with respect to rendering obvious the present invention. WO 92/20538 to Dollinger suggests a formulated chlorinated polyethylene film as an inner liner, and pneumatic rubber substrates and rubber tires incorporating such a film as an inner liner. Dollinger, like Hashimura, does not disclose and does not even remotely suggest the use of the specified terpene resin (A) and the specified

aromatically modified terpene resin (B), in the specified (A)/(B) weight ratio in combination with the epoxy-modified styrene-butadiene based block copolymer.

JP 200-290629 to Ohtsuka fails to overcome the above discussed deficiencies of Hashimura and Dollinger with respect to rendering obvious the present invention. Ohtsuka discloses a hot-melt adhesive, in which the epoxidized diene-based block copolymer is compounded. Ohtsuka, like the other cited references, does not disclose and does not even remotely suggest the use of the specified terpene resin (A) and the specified aromatically modified terpene resin (B), in the specified (A)/(B) weight ratio in combination with the epoxy-modified styrene-butadiene based block copolymer.

Asahara fails to overcome the above discussed deficiencies of the above references with respect to rendering obvious the present invention. US Patent 5,532,319 to Asahara discloses a block copolymer composition containing a block copolymer having the formulae: $(S-B-I)_n-X$ and $(S-I-B)_n-X$. Moreover, Asahara broadly teaches the use of terpene resins as tackifiers (please see col. 8, lines 41-53). However, Asahara, like the other cited references, does not disclose and does not even remotely suggest the use of the specified terpene resin (A) and the specified aromatically modified terpene resin (B), in the specified weight ratio (A)/(B) of 70/30-50/50 in combination with the epoxy-modified styrene-butadiene based block copolymer according to the present invention.

In conjunction with interpreting 35 U.S.C. §103 under *Graham V. John Deere*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966) and *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007), the initial burden is on the Patent Office to provide some apparent reason or suggestion of the desirability of doing what the inventor did, i.e. the Patent Office must establish a *prima facie* case of obviousness. To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention, or the Patent Office must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. In addition, the prior art reference (or references when combined) must teach or suggest all of the claim limitations.

As discussed above, the cited references, even if combined, fail to disclose all of the claim recitations. In particular, the cited art fails to disclose and does not even remotely suggest the use of the specified terpene resin (A) and the specified aromatically modified terpene resin (B), in the specified weight ratio (A)/(B) of 70/30-50/50 in combination with the epoxy-modified styrene-butadiene based block copolymer and do not disclose an adhesive composition layer formed from an adhesive composition having a self-tack of less than 5N and a tack of an unvulcanized diene-based rubber of 10.1 – 20, as recited in the present claims. Moreover, it would not be obvious to select the two different terpene resins and to employ them in the recited weight ratio of 70/30-50/50 or to employ an adhesive composition layer formed from an adhesive composition having a self-tack of less than 5N and a tack of an unvulcanized diene-based rubber of 10.1 – 20 N, since, as set forth in MPEP §2144.05 II. (B), only result-effective variables can be optimized. Specifically, a particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation or an obvious choice of expedients or design choice. Also, please see *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

The mere fact that cited art may be modified in the manner suggested in the Office Action does not make the modification obvious, unless the cited art suggests the desirability of the modification or impliedly suggests the claimed invention, or the Patent Office has presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. No such suggestion appears in the cited art in this matter nor has a convincing line of reasoning convincing line of reasoning been presented in this case. The Examiner's attention is kindly directed to *KSR Int'l Co. v. Teleflex, Inc.*, supra; *In re Dembiczak et al.* 50 USPQ2d. 1614 (Fed. Cir. 1999), *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984), *In re Laskowski*, 10 USPQ2d. 1397 (Fed. Cir. 1989) and *In re Fritch*, 23, USPQ2d. 1780 (Fed. Cir. 1992).

Furthermore, the cited art lacks the necessary direction or incentive to those of ordinary skill in the art to render a rejection under 35 USC 103 sustainable. The cited art fails to provide the degree of predictability of success of achieving the properties attained by the present invention needed to sustain a rejection under 35 U.S.C. 103. See *KSR Int'l Co. v. Teleflex*,

supra, *Diversitech Corp. v. Century Steps, Inc.*, 7 USPQ2d 1315 (Fed. Cir. 1988), *In re Mercier*, 187 USPQ 774 (CCPA 1975) and *In re Naylor*, 152 USPQ 106 (CCPA 1966).

Moreover, the properties of the subject matter and improvements which are inherent in the claimed subject matter and disclosed in the specification are to be considered when evaluating the question of obviousness under 35 USC 103. See *KSR Int'l Co. v. Teleflex*, *supra*, *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 USPQ2d 1923 (Fed. Cir. 1990), *In re Antonie*, 195 USPQ 6 (CCPA 1977), *In re Estes*, 164 USPQ 519 (CCPA 1970), and *In re Papesch*, 137 USPQ 43 (CCPA 1963).

No property can be ignored in determining patentability and comparing the claimed invention to the prior art. Along these lines, see *In re Papesch*, *supra*, *In re Burt et al*, 148 USPQ 548 (CCPA 1966), *In re Ward*, 141 USPQ 227 (CCPA 1964), and *In re Cescon*, 177 USPQ 264 (CCPA 1973).

In view of the above amendment, applicant believes the pending application is in condition for allowance.

In the event that the examiner believes that an interview would advance the prosecution of this application in any way the undersigned is available at the phone number noted below.

If any additional fee is due, please charge our Deposit Account No. 22-0185, under Order No. 21713-00026-US1 from which the undersigned is authorized to draw.

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